DOCUMENT RESUME

ED 427 492 EC 307 063

AUTHOR Engleman, Melissa D.
TITLE From Research to Practice: Training Teachers To Serve Low-Incidence Populations.
PUB DATE 1999-02-05
NOTE 32p.; Paper presented at the MRDD Conference (February 5, 1999).
PUB TYPE Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Distance Education; Elementary Secondary Education; *Inservice Teacher Education; *Low Incidence Disabilities; Rural Areas; *Special Education Teachers; Staff Development; Student Financial Aid; Teacher Aides; *Teacher Certification; Teacher Education; *Teacher Education Programs
IDENTIFIERS North Carolina

ABSTRACT

This paper describes a project in North Carolina which has prepared more than 45 qualified individuals to serve students with low-incidence disabilities over the last five years. An additional 75 persons are currently scholars in the training program, and it is anticipated that more than 120 persons will complete the program by June of 2000. This paper describes the project's beginnings and the unique features of the program which came directly out of local and regional needs. The Training Challenge-North Carolina Project (TRAC-NC1) began by selecting four model school sites where intensive in-service training was given. Teachers and aides at the sites were given different resources, including materials, on-site training, course, technical assistance, and travel to conferences. A recruiting strategy was put into place that would attract students who were already working in schools but were uncertified or under certified. These students received full tuition stipends throughout a masters degree program in special education. Of the 45 stipend recipients who completed the program, at least 42 are currently serving students with low-incidence disabilities. The use of distance learning strategies during training is discussed. (CR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 427 492

Running head: TRAINING TEACHERS LOW-INCIDENCE

From Research to Practice: Training Teachers to Serve Low-Incidence Populations

Melissa D. Engleman

East Carolina University

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Engleman
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

EC 307043

BEST COPY AVAILABLE

Abstract

The demand for fully qualified personnel to provide educational services to individuals with low-incidence disabilities continues to exceed availability. Due to the small number of personnel needed in each state for these highly specialized positions, there is a continuing reluctance on the part of higher education and state level training programs to support professional development programs designed specifically for these areas of training. Problems in providing such teacher training programs are amplified further in the context of rural poverty areas. This paper describes a project in North Carolina which has prepared over 45 qualified individuals to serve students with low-incidence disabilities over the last five years. An additional 75 persons are currently scholars in the training program, and it is anticipated that over 120 persons will complete the program by June of 2000. This paper describes why and how the project began, and unique features of the program that came directly out of local and regional needs.

From Research to Practice: Training Teachers to Serve Low-Incidence Populations

Training Challenge - North Carolina is a personnel training project that was initially developed in 1992 in response to situations encountered in eastern North Carolina concerning students with low-incidence disabilities. The following information on regional practices at that time with this population was gathered from a combination of data gathering and informal school visitation in the eastern region of North Carolina. The resulting information, which is summarized below, revealed some rather disturbing discoveries regarding family participation, inclusion, and outcomes based curriculum and transition planning.

1. Little to no family participation was taking place, and it was not encouraged by teachers or administrators. At the classroom level, parents were not encouraged to participate in planning or instruction. The children with significant disabilities were arriving at school on buses later than the other children, leaving earlier, and seldom having any contact with individuals outside of their segregated classrooms. These children and their families were not being treated as an important part of the school. At the same time, these children were seen as objects of pity in the same communities, and a number of fund-raisers were in place to raise money for special equipment or their participation in Special Olympics events.

Medical services are so centralized at one child care center, that it is almost impossible for parents to get access to the same level of medical care for their child if they choose to have their children living at home. This encourages them to place their children in these out of home placements, often based on the recommendation of a physician, nurse, or psychologist. Eventually, many of the families become uninvolved with the children, as though the institution staff has taken over the parent role for them. The trend is for these children to stay in "the system", as they get older, eventually landing in institutional placements as adults.

2. Poor placement practices. In most of the schools visited, placement practices were misguided or based on misunderstood procedural guidelines. Schools administrators I spoke to were quick to point out that their schools were "fully included". I found out that this meant that the students who could be easily managed were placed in regular classes, and those who couldn't (children with more significant disabilities), were sent to a different school. Children with significant disabilities were not attending school assemblies, or sports events. An alarming number of children were being served in separate "developmental centers" (institution-like settings) and day schools. In one community, a school was serving all of the children with mental retardation at the moderate or severe levels, in a separate K-12 setting. With services so centralized, no children with the Moderate or Severe Mental Disability labels could be served elsewhere in that community.

Placement practices in North Carolina for school aged children and youth with low-incidence disabilities are described in The Seventeenth Annual Report to Congress on the Implementation of The Individuals with Disabilities Education Act (1995). While statistics on Orthopedic Impairments, Other Health Impairments and Visual Impairments show a majority of students participating in regular class settings, other categorical areas show a high degree of segregation in services. For example, 91% of students with autism, 91% of students with multiple disabilities, and 95% of students with dual sensory impairments are served in programs totally separate from their nondisabled peers. Because of the unavailability of separate data, it is impossible to ascertain exact data on placement practices for the various levels of mental retardation, but even from a perfunctory examination of local school district practices combined with the number of separate facilities in eastern North Carolina specifically designed to serve this population, it is reasonable to suspect that if the placements of the population of students with

more significant levels of mental retardation were reported separately, it would reveal that a majority of those students are being served in separate classrooms and separate schools.

Placements do not appear to improve for the low-incidence population after leaving school. Adults with low-incidence disabilities in eastern North Carolina continue to be placed in educational, residential and vocational settings that are primarily segregated from the rest of the community. Although some attempts at supported employment and supported community living are currently underway in the eastern part of the state, the predominating adult services model has changed very little over the last 30 years. Graduates and other students completing school are placed on waiting lists for sheltered workshop settings, and a limited number of group home and ICF-MR slots. It can be argued that occasionally, segregated settings may be justified by severe medical or behavioral needs, but the majority occur because of the types of educational training received and the lack of transition planning that occurs during the school years (Janney, Snell, Beers, & Raynes, 1995; Darrow & Nixon, 1992). Recent studies have concluded that students who receive their educational preparation in segregated educational settings tend to move on to segregated adult settings, have poorer employment opportunities, and fewer typical social relationships (Hebbeler, 1993), so it is not surprising to see former students who were segregated from their nondisabled peers continue to live and work as adults in segregated environments.

3. Curriculum deficiencies. One very important curriculum area for the majority of children and youth with low-incidence disabilities is that of communication. For many children, communication and appropriate positioning can make or break the rest of the instructional areas. In the classrooms I visited, there seemed to be little or no recognition of communication attempts outside of verbal ones. No augmentative or alternative communication was used, and speech

therapists were still recommending that they wait until children with severe disabilities developed "prelinguistic skills". Students were frequently being positioned inappropriately, or left on mats.

When asked about the curriculum used in their programs, many teachers had a great deal of difficulty answering. There was a glaring ignorance of transition planning methods and even of the basic law (the transition mandate from the IDEA of 1990). Developmental training approaches were being used for individuals of all ages, based upon their tested mental age. There was a lot of confusion over what was "functional", and whether academic goals should be sought, or whether the developmental approach should be used. There were a lot of pegs being placed in pegboards, and there was a lot of apparently purposeless sorting and weaving going on. One teacher described how after the first few days on the job teaching deaf 16 year olds with mental retardation, what a relief it was when she pulled out materials from when she had been a kindergarten teacher, and started using them the next day.

Personnel Shortages and Inadequacies

These findings led to a close scrutiny of what type of teacher training had led to this state of affairs. In North Carolina, the only teacher training program for serving students with severe disabilities in 1992 was located at UNC-Charlotte (over 200 miles away). Few people in the eastern part of the state seemed to have had any training in how to serve students with severe and profound disabilities. Many of the teachers in these classrooms had provisional special education certificates, having received their training in Elementary Education, or some other area.

The Low-Incidence Disability Task Force Study in North Carolina. In 1993, the General Assembly of North Carolina ratified Chapter 61, House Bill 40, which directed the North

Carolina Department of Public Instruction to identify and evaluate the special education and related service needs of low-incidence populations. Two very important outcomes resulted from the work of the task force. First, the following definition of "low-incidence disabilities" was established for the state: "...Those (persons) whose constellation of disabilities are of low frequency (<1% of the total school population) and of such magnitude/intensity to require services that are specialized, technologically complex, comprehensive and/or transdisciplinary in nature to appropriately meet their educational needs. This definition includes ...[individuals] typically identified as severely-profoundly mentally handicapped, multihandicapped, deaf-blind, and traumatic brain-injured" (Executive Summary of the Recommendations of the Task Force, 1993, p. 25).

In addition to its study of the state definition of low-incidence disabilities, the task force studied state needs in the area of services to low-incidence populations. A resulting report stated the need for "increasing the capability of local education agencies to assure that...unique and costly service needs of students [with low-incidence disabilities] are provided". The specific unique need areas for improvement cited in the report included "[appropriate] evaluations, specialized instruction (including toilet training, vocational and life skills and mobility training), related services (including, but not limited to augmentative communication, computer technology, switches for environmental control, and other adaptive-assistive devices), and extended school year" (Executive Summary of the Recommendations of the Task Force, 1993, p. 6). Evidence of the desperate nature of the need for improved training of personnel in this category is evident in the major recommendation of the task force. They felt that in order to meet these needs, what is needed is "improved and increased training for teachers, related services personnel, parents and others to foster understanding and skill acquisition in many of the

specialized need areas of this population, including communication development, motor functioning, mobility, medical issues, specialized food preparation, and so on" (p. 6).

Table 1 shows the teacher shortages for positions serving students with low-incidence disabilities in North Carolina as revealed by the Seventeenth Annual Report to Congress on the Implementation of The Individuals with Disabilities Education Act (1995). Although Table 1 shows a need for teachers in the listed categories that is at various degrees of seriousness (ranging from 0 to 33%), the situation is probably worse than it appears to be as presented for a number of reasons. First, the numbers reported do not represent persons in separate, full-time positions, so those persons reportedly working in various categories may appear to cover more areas than is realistically possible. For example, one person may serve children or youth in their case load who have traumatic brain injuries, autism, mental retardation and deafness. In this case, the person is reported as working in each of these categories, and may be inaccurately interpreted as four separate persons. Using the same illustration, the person serving the students in several categories may be certified, and/or trained to work specifically in only one of the areas reported, or even in none of the areas reported, yet hold basic special education certification and be counted as fully certified (for example, they may hold certification in an unrelated area, such as learning disabilities). Finally, the person in this same scenario may have no special education certification at all. This particular set of data presents the reader with no information on whether the personnel being counted have basic special education certification, so it is impossible to interpret the actual number of fully qualified and adequately trained personnel filling these positions.

North Carolina Comprehensive System of Personnel Development (CSPD) Data. North Carolina's 1996 CSPD report shows that for the 1994-5 school year, of a total of 1,601 teachers

serving 20,553 students with low-incidence disabilities (ages 0-22), fully 8% (124 positions) were either vacant, or the teachers had no special education certification, and no data is provided on the area of certification category for the other 92% reported to be certified in special education. In other words, although at first glance, it appears from these reports as though there is a negligible shortage (only 8% uncertified or vacant) of qualified teachers, there is no assurance from interpreting this report that *any* of the personnel have any specialized training in low-incidence disabilities. Because of the unavailability of training for serving low-incidence disability categories in the eastern half of North Carolina until only recently, it is probable that a majority of the teachers working in the eastern part of the state do NOT have training or certification in the low-incidence disability area.

Table 2 summarizes data on the eastern part of the state's 225 teachers who serve 1883 persons with low-incidence disabilities outside of public school settings. Table 2 shows that 28% of these positions are currently either vacant or filled by persons who hold no certification in special education. When asked about the difficulties filling positions, facility Directors are quick to point out the small pool of trained personnel available to apply for the positions. Other overall figures are equally disturbing. For example, only 55 (24%) of the personnel filling 225 positions that serve this population actually have certification in some low-incidence disability category. Slightly more hopeful is that 107 (48%) others actually have some type of special education certification. However, certification in other areas of special education (e.g., learning disabilities) does very little to prepare teachers to serve the populations served in these facilities, who frequently experience medically fragile conditions or require very specialized types of treatment or education.

One other piece of information that is not included in this table is that these facilities make wide use of teacher's aides and/or program assistants. In fact, at a majority of the facilities, there are almost twice as many assistants as certified teachers. These workers are required to have a high school diploma only, with some on-site training provided (at most facilities). This fact, in combination with the small percentage of teachers employed who are fully qualified (24%) to serve this population paints a dismal picture for people with low-incidence disabilities in eastern North Carolina.

There was a need for improved training for persons in eastern North Carolina who served low-incidence populations. Resources, staff and money were needed, and requested grant monies had actually been denied because there were no sites deemed adequate for training interns. In any new personnel preparation program, there would have to be a strategy that would improve services to children and youth, while attending to the needs of the teachers receiving the training and the schools and families with whom they would be working. The typical graduate student to be trained had been teaching for at least a year or more, had little information about special education except what they picked up "on the fly", and did not have a lot of time or money for attending school. Most of them worked full time, had families at home, and lived outside a 50 mile radius from the ECU campus. These students would need tuition funds and local training sites, as well as practical assessment, curriculum and instructional strategies. Additionally, a number of them would need encouragement, and validation from other teachers who were having similar experiences.

The TRAC-NC I Project

Funding was secured through OSERS over a four year period. A training strategy was put into place, and the "Training Challenge - North Carolina" Project (or TRAC-NC I) was begun.

The TRAC-NC I Project had several components. First of all, there were four model schools sites selected, where intensive in-service training was given, and teachers and aides at the sites were given a number of different resources (materials, on-site training, courses, technical assistance and travel to conferences). Second, a recruiting strategy was put into place that would attract students who were already working in schools with students, and who were uncertified or undercertified. These students would receive full tuition stipends throughout a masters degree program in Special Education, and in some cases, financial support for travel and/or textbooks. Support was also secured from administrators of the schools or agencies of these students for released time for the training, as necessary.

Over its four year cycle, the TRAC-NC I Project accomplished the following objectives. Of the 45 stipend recipients who completed the program, at least 42 (93%) are currently serving students with low-incidence disabilities, and they cover schools and facilities over a wide area of eastern North Carolina. They serve students from ages 3 to 90, in a variety of settings. Add-on certification (only) in low-incidence disabilities has been attained by 2 students (4%), and Masters Degrees were completed in Low-Incidence Disabilities by 43 students (95%) by May of 1998 (Darrow, 1996; Engleman, 1998).

Accomplishments of previous TRAC-NC students reveal how important this training has been for students with low-incidence disabilities in eastern North Carolina. For example, after finishing a course on Secondary Transition Planning as part of the master's degree, one of the teachers at a local Developmental (Separate Day) School for students with severe disabilities (K-12) decided that it would no longer be acceptable for her students with autism to have transition plans that led to waiting lists for sheltered workshop and adult day care placements. Armed with full knowledge of the transition mandate contained in the IDEA and knowledge of current best

practices, this TRAC-NC participant worked with her administrator to put a community-based training program into place for the high school level students at her school, that focuses on preparing students for integrated community environments. This has been a remarkable accomplishment, especially in light of the history of segregation at this school from other schools and the community. As a result of this teacher's initiative, the Principal at this school has now requested teachers at other levels to implement longitudinal curriculum planning leading to integrated adult outcomes, using the Syracuse Community Curriculum Guide (Ford, et al., 1989).

Another teacher serving elementary school age students with low-incidence disabilities, had begun in a new classroom at the outset of the TRAC-NC project. When she entered the program, she described her classroom as totally segregated from the rest of the school. Over the past four years, she completed her master's degree in Low-Incidence Disabilities, and received technical assistance from the project's Training Coordinator. The first step the Training Coordinator took was to assist this teacher in taking her students to the lunch room with other students. These students had previously been so segregated from the other children, that they were actually frightened the first day upon entering the lunch room. Since that first incident, over the last four years, we have seen the students in this classroom become fully integrated into the life of the rest of the school in a meaningful way. Several of the children she serves have home rooms that are outside of her classroom, and several others attend a number of regular education classes with nondisabled peer helpers. The children in this teacher's classroom eat lunch in the lunch room, and other children in the school choose to eat with them. Also as a result of her training with TRAC-NC, this same teacher has made augmentative communication training and assistive technology an integral part of every day activities. She has also implemented several excellent

self-help strategies with her students that have assisted them in becoming more independent and able to more easily attend regular classrooms.

The TRAC-NC I project was like a small bandage on a very large wound. A series of courses had been developed and a masters degree in Low-Incidence Disabilities was established and now listed in the East Carolina University Graduate Catalog. Permission from the state was secured to prepare teachers for graduate level licensure in this area. Thirty-eight teachers who had received training were now scattered across eastern North Carolina, making their classrooms available as internship sites. These were in addition to the original four "model" sites that had been established for the training of the first 38 students (Darrow, 1996). It was decided that further funds would be necessary to continue to prepare more teachers in this area, and to firmly establish this masters degree as a permanent program at the University.

The TRAC-NC II Project

The strategy for the TRAC-NC II project was slightly different in focus from the previous project. Some of the shift in focus had to do with differences in the grant money obtained. The objective of the first project had been to train 45 students over four years, and to establish the program. The second project's objective was to train over 120 students over three years. Major recruiting efforts took place, additional full and part time faculty were hired, and suddenly there were over 85 graduate students receiving stipends and ready to take course work during the first year of the project.

Maintaining Quality and Serving Student Needs

One of the major strengths of the training delivered in TRAC-NC I had been its ability to be personalized. Most of the students were hard-working, with shoe-string budgets, with willingness and open minds. They all showed concern for the individuals they worked with and

their families. Previous courses had taken a very practical approach, using a great deal of classroom discussion for illustrating real-life examples. In class problem-solving was a successful strategy also. This demonstrated respect for the experiences and knowledge that each of the teachers brought to the class. A good deal of the learning was learner-directed. Generally, the approach was more of a humanistic one and less of a technical one. The challenge at the outset of TRAC-NC II was to maintain this flavor of instruction, but on a much larger scale, and across distances.

Distance Learning Strategies

Three different distance learning strategies were employed for TRAC-NC training to supplement the traditional one of students driving to campus. The three strategies were having the instructor drive to a remote site, interactive television courses, and internet courses. Most students have experienced a combination of two or more of these course delivery methods.

Teaching at a remote site. First, simply having the instructors drive to remote sites was used. This is the simplest method that we continue to use, but for the instructor, it can be the most time-consuming and exhausting. Some of the training sites are 4 to 5 hour round trips from campus. Add to this that most of the courses are offered in 3 to 4 hour increments at night, and instructors become reluctant to take these assignments on.

Interactive TV. The second distance learning strategy that has been used is the interactive television course. The North Carolina Information Highway system is employed, connecting our studio classroom to studio classrooms at other North Carolina Information Highway sites. Using this strategy, groups of two or more remote sites can receive instruction at the same time. Additionally, instructors at more than one site can be involved in the training. For example, Dr. Fred Spooner at UNC-Charlotte collaborated with the project in co-teaching a series of courses.

Students who were enrolled in programs at ECU and UNC-Charlotte, who might otherwise have never met, were able to interact and learn from each other. Interactive television courses can have drawbacks. Scheduling can be very difficult, and class times have to be planned in advance. Different sites have various holiday schedules, or now and then a site will simply "go down", disappearing from the screen for an unknown reason, or lose audio for some period of time. Instructors teaching these courses must be flexible. Some of the most important lessons learned about the delivery of Interactive TV courses for the TRAC-NC II project are included in the following list of considerations.

1. It can be very dull, if only one teaching method (lecture) is used. It is very difficult to simply watch a "talking head" type of presentation for any length of time. Instructors must use a variety of presentation styles, and work well with the studio technician. A good technician will keep up with classroom activities, and make sure they run smoothly. Any video, slides or other multimedia should be brought to the technician for testing in advance.

2. It is important to be sure to address all of the instructional sites, and not simply teach to the group in the room with you. Favoring of one classroom site is easily perceived by students, and other sites will not feel as though they are part of the class, but merely observing. An extremely important component of the interactive television method is to constantly engineer ongoing interaction between instructor and students at the various sites, as well as between and among students at various sites.

3. Plenty of time should be set aside for advising, and outside of class consultations. Those informal break-time and before and after class activities are not possible with students at remote sites. It's a good idea to spend at least one class period each semester teaching from each of the remote sites, and spending some time with the students there.

Internet courses. Another avenue for course delivery has been the internet. In the fall of 1998, a large number of teachers from a county about 2 hours drive away were asking for an introductory course on Low-Incidence Disabilities. No instructor was available to travel, and no interactive studios were available. An internet course was used for the first time as part of this project. As with the interactive television course, it was important to the instructor to design this course with those same features that had been so successful in other courses. It seemed like it would be all too easy to end up teaching something akin to the old traditional "correspondence" courses, just sent over electronic mail instead of the US Postal Service. Resources were available in the form of an IP network on campus and a School of Education web server called Eastnet. The technician was very helpful in developing and maintaining the pages necessary to deliver this course.

Components of the course that were important to the design were related to student and instructor needs. The course had to foster ongoing interaction between instructor and students, as well as among the students. The students would require regular instructor feedback and interaction, and the instructor would require regular student feedback.

In designing the course, its components were created to fulfill the same objectives as those identified in face-to-face courses. Figure 1 illustrates the typical classroom activities identified in traditional courses that had met with success. Figure 2 shows a pairing of the traditional classroom activities with how they were addressed in the internet course. Figure 3 shows a sample of how an objective might look from the syllabus page of the on-line course.

Instead of traditional classroom lectures, the instructor would post a presentation that could be downloaded and viewed by students. For this particular class, the software used was Microsoft PowerPoint$_{TN}$. The instructor also sent e-mail to students containing instructor

comments about what the salient aspects of the week's material were. A number of other links were posted each week, leading students to further information on the topic being covered.

Articles and links to other assigned or suggested readings and web sites were also posted as part of each lesson. Students spent a great deal of their time doing further inquiry in this fashion into whatever part of the topic of that week interested them most. Some very challenging discussions came out of some of the supplemental readings that would probably not have come up in a traditional classroom.

Classroom discussion was more of a challenge with about 45 people, most of whom did not live within 50 miles of each other. During the week, there were two "live" chat room sessions, in which any students could participate with the instructor. This involved on-line instant questions and answers within a graphic display, and discussions of important issues, much like a class discussion. There were a number of technical problems with this aspect of the course, mostly having to do with the slow speed of many of the students' home computer modems. In the future, chat rooms will be used that do not use a graphic interface. This should allow for more even access for students.

Another venue for classroom discussion was the conference page. Samples of the conference room page are shown in Figures 4 and 5. Questions and topics could be posed by the instructor or by students. Other students, or the instructor could then post comments on the "threads" or topics. The requirement was that the comments would have to be supported with literature and research, not just "off-the-cuff" opinion.

Overall, the internet course was an exciting experience for all the participants. It was frustrating at times because of technical problems, and both students and instructor felt a need for more interaction. In future classes, at least three face-to-face class meetings will take place as

part of the course. No matter what on-line strategies are used, there appears to be no substitution that adequately simulates actual human contact.

One unexpected result of the internet course was the realization of the strengths of the conference page. Even in traditional courses, it may be possible to incorporate this strategy to gain some of these benefits. Some of the benefits of this teaching strategy include the following: (a) students who might not otherwise participate in verbal discussion can participate in on-line discussions more often and more fully; (b) no one student dominates the conversation; (c) students can post their own topics, and then respond to one another, so some of the discussion is student-directed; (d) all students are involved in the discussions; (e) topics can be covered that normally couldn't be addressed in class due to time, or sensitivity of issues; and (f) students can post more informed and carefully throught out comments, citing sources.

The Future

As the TRAC-NC Project looks forward to its seventh year, it is refreshing to visit classrooms in the region. We see more children with significant disabilities integrated into schools and school programs. We see more teachers employing augmentative and alternative communication systems. Classrooms have occupational therapists working on positioning. Teachers are changing their programs to more outcome-oriented, person-centered planning. We overhear teachers having informed arguments over the benefits and drawbacks of various recently available curriculum programs. We continue to seek funding for this important project, and to explore distance learning strategies. We have only begun to make a difference here.

References

Darrow, M. (1996). U. S. Department of Education Grant Performance Report for Training Challenge - North Carolina Project (PR Award No. H029B30145-95). Greenville, NC.

Darrow, M. A. & Nixon, C.A. (1992). Transition training needs of personnel in eastern North Carolina: Report on a needs assessment survey. North Carolina Journal of Teacher Education, 5(2), 8-20.

Engleman, M. (1998). U. S. Department of Education Grant Performance Report for Training Challenge - North Carolina Project (PR Award No. HO29A70041-98). Greenville, NC.

Executive Summary of the Recommendations of the Task Force (1993), Report to the North Carolina Commission on Children with Special Needs, North Carolina Department of Public Instruction: Raleigh, NC.

Ford, A., Schnorr, R., Meyer, L., Davern, L., Black, J., & Dempsey, P. (1989). The Syracuse community-referenced curriculum guide for students with moderate and severe disabilities. Paul H. Brookes: Baltimore.

Hebbeler, K. (1993). Overview of the high school experiences of students with disabilities. In Wagner, M. (Ed.), The secondary programs of students with disabilities. A report from the National Longitudinal Transition Study of Special Education Students. Menlo Park, CA: SRI International.

Janney, R., Snell, M., Beers, M., and Raynes, M. (1995). Integrating students with moderate and severe disabilities into general education classes. Exceptional Children, 61, 425-429.

North Carolina Comprehensive System of Personnel Development (CSPD) Report for 1996 to the US Department of Education, Office of Special Education and Rehabilitative Services,

Office of Special Education Programs, North Carolina Department of Public Instruction: Raleigh, NC.

Seventeenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (1995). US Department of Education, Washington, DC.

Table 1

North Carolina Personnel Shortages Reported in Areas of Low Incidence Disabilities

Category	Employed[a]	Shortage	Shortage(%)
M. Retardation[b]	1889	167	9%
Multiple Disabilities	106	21	20%
Tr. Brain Injury	1	3	33%
Hearing Impaired	259	28	11%
Orthopedic Impaired	54	5	9%
Other Hlth Imp	96	16	17%
Visual Impaired	81	20	25%
Autism	114	30	26%
Deaf-Blind	3	0	0

[a]Employment does not imply certification.

[b]No separate data are available that break information on mental retardation down into severity categories.

Table 2

Personnel Serving Persons with Low-Incidence Disabilities in Eastern North Carolina in Public and Private Facilities Other Than Public Schools

Facility Name & Description	Population Served Sp. Ed.	# Teaching Positions	Certified Low-Incidence	Certified Other Areas	Uncertified or Vacant
Caswell Resid Ctr Kinston, NC	700 persons (ages 22-90)	54[a]	6 (11%)	49 (91%)	0
Newport Dev. Ctr. Newport, NC	123 persons (birth to 21)	11	1 (9%)	10 (91%)	0
O'Berry Resid Ctr Goldsboro, NC	410 persons (age 16-)	40[a]	29 (73%)	2 (5%)	9 (23%)
EC Sch For Deaf Wilson, NC	320 persons (age 2-21)	72	1 (1%)	25 (35%)	46 (64%)
Carobell, Inc. Jacksonville, NC	41 persons (age 3-21)	5	0	4 (80%)	1 (20%)
Edgewood School Goldsboro, NC	115 persons (age 3-21)	13	2 (15%)	11(85%)	0
Howell's Centers (Throughout eastern NC)	174 persons (age 3-21)	30	16 (53%)	6 (20%)	8 (27%)
Totals	1883	225	55 (24%)	107 (48%)	64 (28%)

Note. These data were collected in a telephone/mail survey conducted in fall of 1996 by the TRAC-NC project.

[a] At O'Berry and Caswell, positions are for "Program Specialists", rather than Teachers. Certification requirements are the same as for teachers.

Figure 1. Identified Traditional Classroom Activities

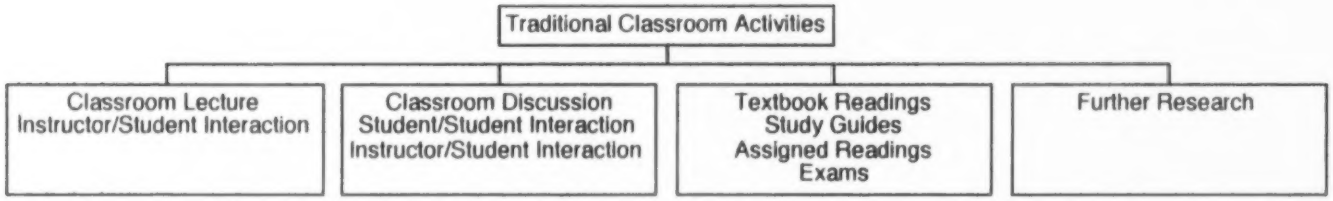


Figure 2. Corresponding Electronic Classroom Activities

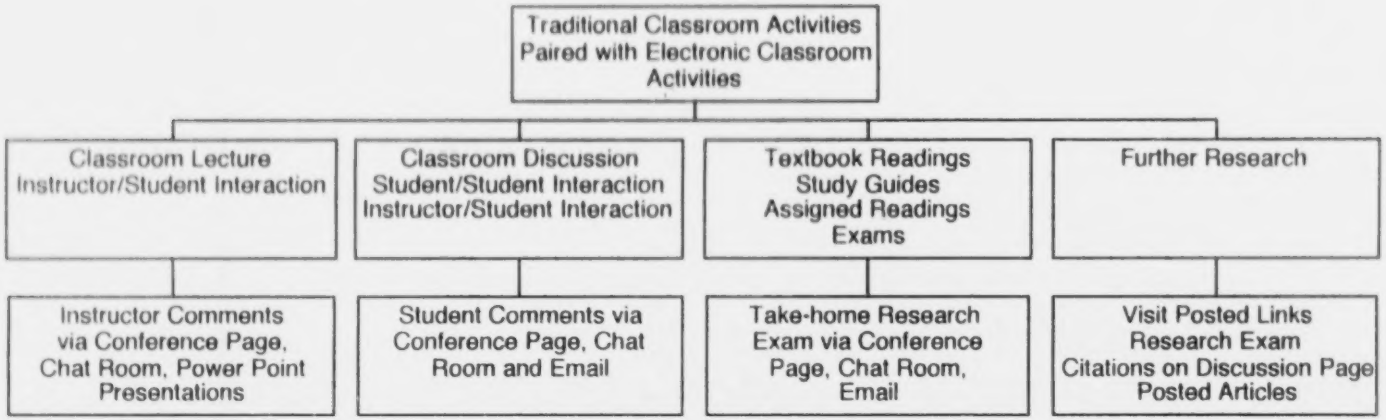
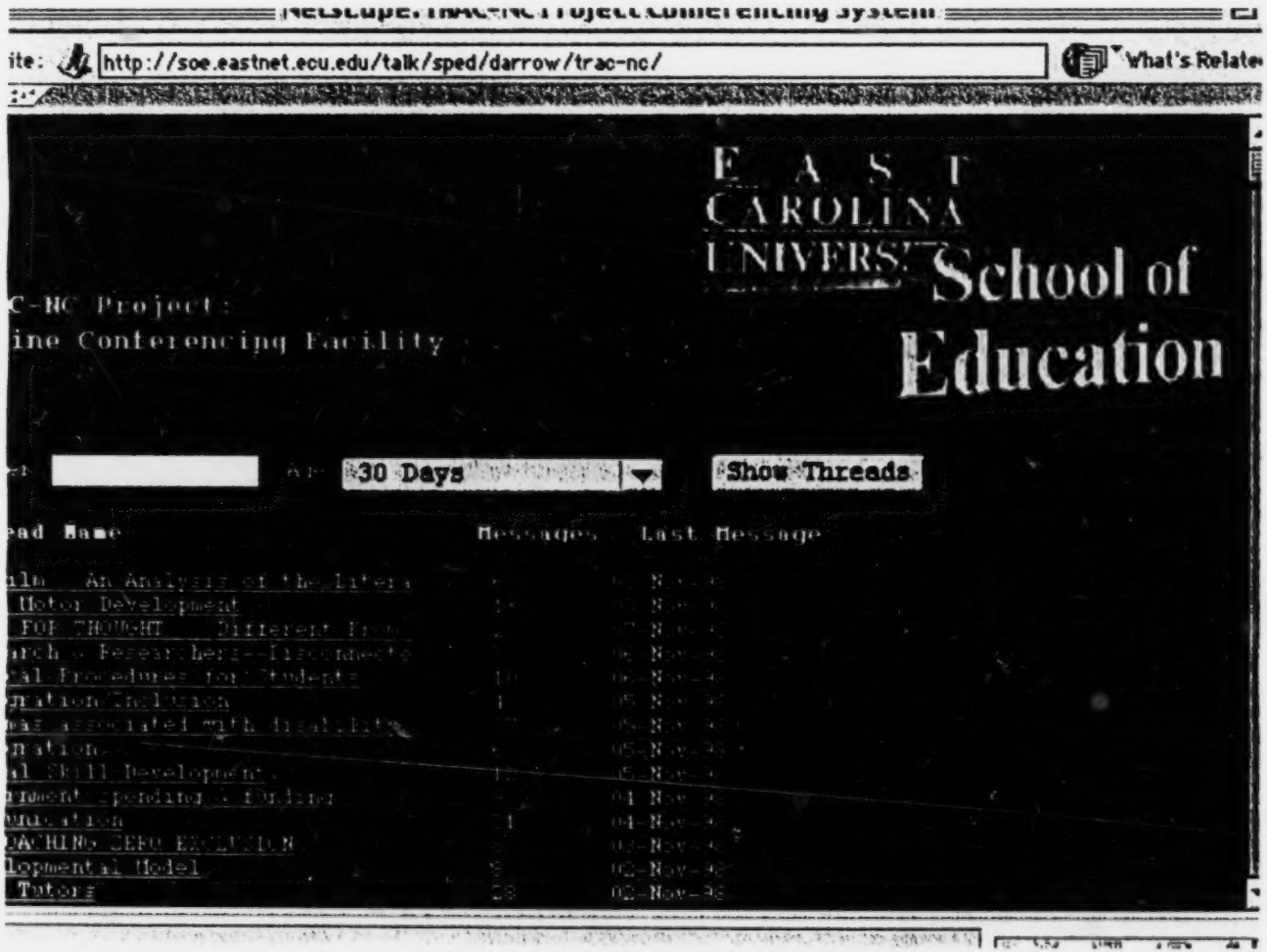

Traditional Classroom Activities Paired with Electronic Classroom Activities
Classroom Lecture Instructor/Student Interaction
Classroom Discussion Student/Student Interaction Instructor/Student Interaction
Textbook Readings Study Guides Assigned Readings Exams
Further Research
Instructor Comments via Conference Page, Chat Room, Power Point Presentations
Student Comments via Conference Page, Chat Room and Email
Take-home Research Exam via Conference Page, Chat Room, Email
Visit Posted Links Research Exam Citations on Discussion Page Posted Articles

Figure 3. Sample Lesson Web Page for a Course Objective

Objective One Demonstrate understanding of historical context and current state of services for persons with severe/low-incidence disabilities

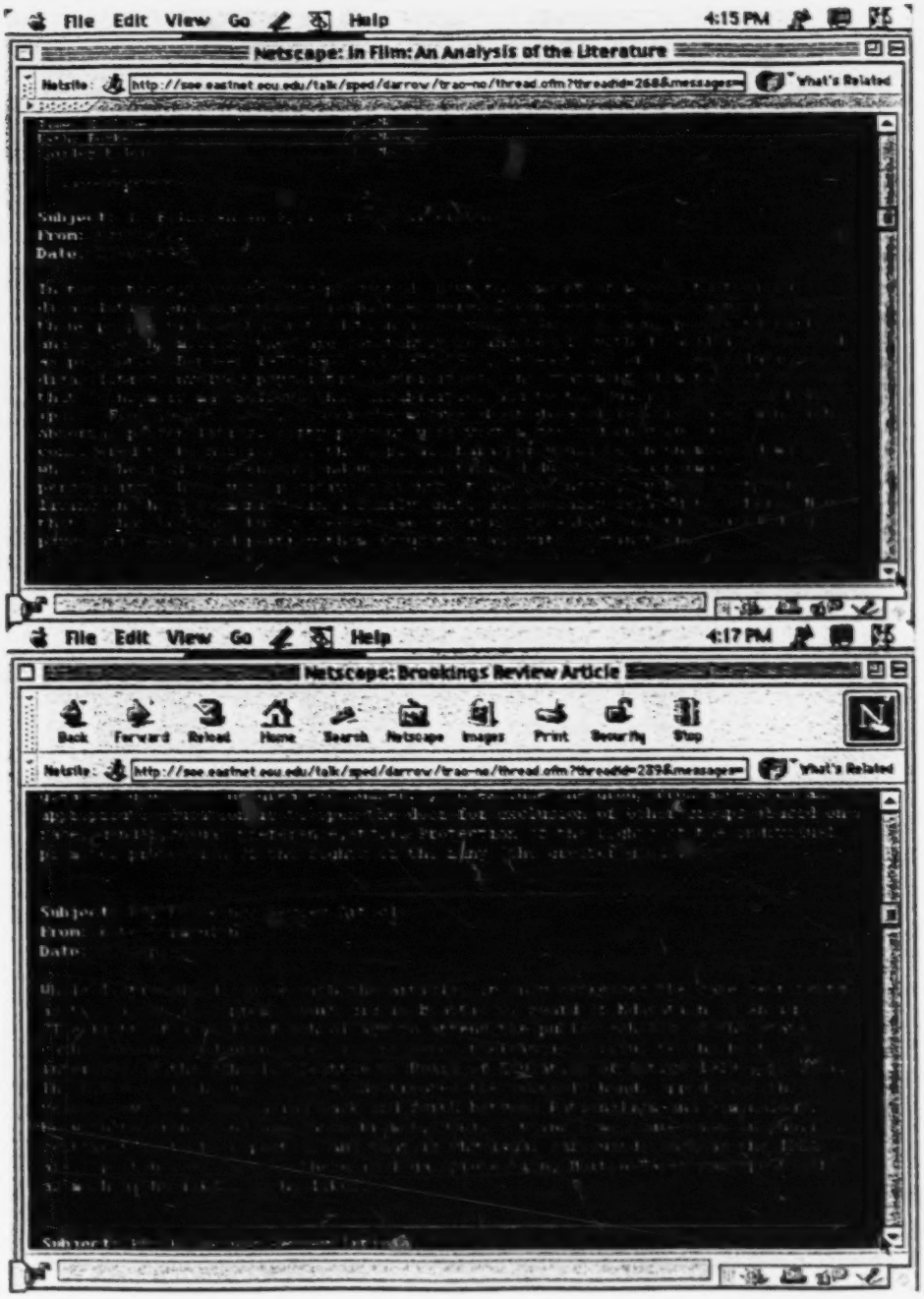
I. Readings: Brimer (1990), pp. 1-11 from packet Chapter 2 McDonnell et al., 1995	**IV. Check out Further Reading Links:** Infanticide Essay Information on Witch Burnings Tutorial on Eugenics
II. Supplementary Readings and Instructor Comments: You will receive via email and read The Readings are Also Available by Clicking HERE! Article 1 Article 2 Article 3	**Go to Objective Two** **Go to Objective Three**
III.View Power Point Presentation **Objective One Content**	**Go to conference page to post** **Discussion Comments**

Figure 4. The Conference Discussion Page



BEST COPY AVAILABLE

Figure 5. Sample Student Entries on the Conference Discussion Page



BEST COPY AVAILABLE